

# BEST AVAILABLE COPY

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U.S. Appl. No. 09/341,637

## REMARKS

Claims 1-20 are pending.

### I. Canadian Application No. 2,136,746

The Office Action refers to "Admitted Prior Art", citing page 1, line 4 - page 2, line 15 of the specification. Therein, WO 93/24324 is discussed. During a search within the last three months, Applicants became aware of an English-language Canadian Application No. 2,136,746 corresponding to WO '234. Thus, a concurrently-filed IDS cites this.

### II. 35 USC § 103(a) Rejections

#### A. Claims 1-3

Claims 1 and 3 are rejected under as being unpatentable over the Admitted Prior Art in view of Aoki et al. (U.S. Patent No. 4,007,078), Ichikawa et al. (U.S. Patent No. 4,994,130) and Murphy (U.S. Patent No. 4,289,559) and/or Bradley (U.S. Patent No. 3,959,567).

The Office Action asserts it would have been obvious to modify an extrusion coating process (described in the first full paragraph of page 2 of the present specification) to avoid use of the initially produced extruded material in view of Aoki et al. and Ichikawa et al. by using the vertically moveable rollers (of Murphy or Bradley) to achieve the claimed invention.

The "Admitted Prior Art", namely WO 93/24324 (CA '746) and EP 0067060 at page 1 of the application, fail to disclose the present invention. Thus, the Office Action modifies the film laminating processes and extrusion laminating processes by asserting Aoki et al. teaches to avoid feeding off spec extruded plastic to further processing.

In any event, Applicant respectfully presents none of these references teach the claim 1, subpart (v) feature of "pressing the plastic strip onto the substrate by closing the contact roll and where applicable breaking off the plastic strip being led away, while the substrate and the cooling roll are connected by the plastic strip."

Furthermore, none of the references teach the Claim 1, last paragraph, feature of "wherein the contact roll is moveable to a first position apart from the substrate wherein the contact roll is suitably arranged to co-operate with a means of conveying off the plastic strip and to a second position relative to the substrate wherein the contact roll is suitable to press the plastic strip onto the substrate."

Moreover, the Office action incorrectly asserts:

“[I]t would have been obvious to one of ordinary skill in the art at the time of the invention to provide for opening and closing the press laminating rolls of the Admitted Prior Art to feed a haul off roll as in Aoki et al in view of the exemplary state of the art teachings in laminating to Murphy (see col. 2, lines 60-66 for disclosure of the laminating roll being vertically movable) and/or Bradley (see col. 5, lines 17-44 and Fig. 1, which discloses crank (15) for controlling the vertical movement of roll 12), suggesting it is known to provide for opening and closing of press rolls in lamination processes and only the expected results would be achieved.” (Office action, page 4)

1. The Office Action Improperly Asserts "Common Knowledge"

Claim 1 recites, “leading away the plastic strip between an opened contact roll and the substrate until the plastics strip production is underway and stabilized... .” The Office Action admits Aoki et al. does not teach this and Aoki et al. teaches a complicated switching mechanism. Aoki et al. requires to divert off-spec film through a pathway “X” between conveyor assemblies 21 and 22 and away from its product pathway “Y” between conveyor assemblies 21 and 23. Thus, Applicant respectfully presents Aoki et al. does not perform the above-mentioned recited step and fails to appreciate the unobvious benefits of simply moving a roller apart from a contacting surface to avoid contact as in the present invention.

To make up the deficiency of Aoki et al. the Office Action asserts, “One of ordinary skill would have been additionally motivated to look to the plastic film lamination art for simpler means that would provide for the separation control”. This is an improper basis for a rejection.

An obviousness determination may not substitute the “common knowledge or common sense” of one skilled in the art for specific evidence that the prior art suggests an invalidating combination of references.” *In re Lee*, USPQ 2d 1430 (Fed. Cir. 2002). MPEP 2144.03 states, “Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known.” It is submitted the Office action's assertions are neither unquestionably well-known nor supported by documentary evidence. The motivation asserted by the Office action is unlikely given that Aoki et al. teaches away from the present invention. Aoki et al. teaches to divert defective film strip upstream of the

machine for processing film to not feed the defective film strip to this machine (Aoki et al., col. 1, lines 53-65). In contrast, the present invention simplifies the method and apparatus by passing off-spec film through product making equipment with a key roller in an open position.

The “simplification motivation” of the Office Action is also contrary to MPEP § 2143.01. This section cites *In re Kotzab*, 55 USPQ 2d 1313 (Fed. Cir. 2000). In *Kotzab*, the claims were drawn to an injection molding method using a single temperature sensor to control a plurality of flow control valves. The primary reference disclosed a multi-zone device having multiple sensors, each of which controlled an association flow control valve, and also taught that one *system* may be used to control a number of valves. The court found there was insufficient evidence to show one *system* was the same as one *sensor*. While the control of multiple valves by a single sensor rather than by multiple sensors was a “technologically simple concept,” there was no finding “as to the specific understanding or principle within knowledge of the skilled artisan” that would have provided the motivation to use a single sensor as the system to control more than one valve. *Kotzab*, 55 USPQ2d at 1318.

As in *Kotzab*, the present Office action makes no finding of why there is motivation to simplify the Aoki et al. system with a vertically movable roll. Indeed, a vertically movable roll would not work in the Aoki et al. device. The pickup reel “F” of Aoki et al. is off the main product path. Thus, a vertically movable roller would prevent the diversion of off-spec material required by Aoki et al. to the reel “F”. As also stated in MPEP § 2143.01, “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” MPEP §2143.01, citing *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984).

## 2. The Motivations of Murphy and Bradley are Irrelevant

The motivation to make upper laminating roll 2 of Murphy vertically movable is irrelevant to the present claims. Murphy is apparently not diverting a film to avoid contact / lamination of two layers because (i) the contact is upstream at roll 40 of the vertically movable roll and (ii) there is no separate defective film take-up roll (Murphy, Fig. 1). Rather the roll 24 is movable to provide constant pressure during lamination (see Murphy, col. 3, lines 46-53). Moving roll 24 up or down does not send laminate in a different direction.

Likewise, the motivation in Bradley to make upper laminating roll 12 vertically movable is irrelevant. Moving roller 12 up or down does not change film direction. Roller 12 is movable merely to vary the nip and compression between rollers 12 and 13 (Bradley, col. 5, lines, 23-27).

There is nothing in Bradley about moving a roller to avoid contact of the film and the roller.

Merely substituting two rollers (one being vertically movable) into the Aoki et al. device would fail to divert the film. Hence, Aoki et al. would be inoperative as explained above.

3. Ichikawa et al. Uses the Haul Off Roll in a Discontinuous Process

The Office action asserts, "Ichikawa et al. acknowledge, in an attempt to better control the process (including start-up), the thermoplastic sheet may be wound up on a haul off roll prior to bonding so as to separate the extrusion process from the bonding process (Column 3, lines 48-55). Furthermore, Ichikawa et al. discloses as is readily known in the art that the surface of the formed laminate should have a minimum of irregularities and should be uniform in thickness." The Office action also asserts Ichikawa et al. fails to suggest means to carry out this separation. These assertions take Ichikawa et al. out of context. Ichikawa et al. states:

"In FIG. 1, the operation of the extruding machine 5 and the hot press bonding step are shown as a continuous process. However, in some cases, the solid sheet 11 withdrawn from the [a] three-roll may once be wound up on a haul off roll prior, so that the extrusion step and the hot press bonding step are separated, whereby the process control (including the start up and troubleshooting) of these steps can be simplified. The solid sheet wound up on a roll is usually stored at room temperature." (Ichikawa et al, col. 3, lines 48-58).

Thus, Ichikawa et al. uses the haul off roll in a process where film forming and film laminating are permanently disconnected in a discontinuous process. This is the opposite of the present invention as admitted by the Office Action at page 2 stating, "Applicant's invention includes forming plastic strip in a continuous manner, whereby the strip is led away from an extrusion process by an "open contact roll" to a haul off roll or the like as to not initiate contact until strip casting is monitored and the plastic strip is formed with the desired characteristics (e.g., color, thickness, tension)." The modification is to the embodiment of FIG. 1 of Ichikawa et al., wherein the haul off roll of Ichikawa et al. is upstream of the rolls 2, 2'. Thus, Ichikawa et al. suggests to carry out separation by a discontinuous process employing a haul up roll upstream of

the rolls 2, 2' to prevent passing the film between rolls 2, 2'. Accordingly, modifying one or both of rolls 2, 2' to be vertically movable would be irrelevant and not arrive at the present invention.

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B. Claims 2, 4-6, and 8-20

Dependent Claims 2, 4-6, and 8-20 are rejected as being unpatentable over the references applied to claims 1 and 3 above, and further in view of Smith et al. (US 5,407,702). It is respectfully submitted Claims 2, 4-6, and 8-20 distinguish over the cited references.

Initially, Applicant respectfully presents it is improper to combine EP '060, a primary reference, and Smith et al. The substrate of the primary reference (EP '060) is only straight during coating in Fig. 2 (It is bent during coating in Figs. 1 and 3 of EP '060). This Fig. 2 arrangement drops the film vertically. Thus, EP '060 would not direct film away from substrate by combination with a vertically movable roller of Smith et al.

It is further improper to combine WO '324 (CA '746) and Smith et al. CA' 746 requires (i) extruded polypropylene polymer be quenched to 0-15°C directly on emerging from the die to avoid crazing (See CA '746, p.4, last 2 paragraphs) or, (ii) when the cooled film is applied to metal sheet above the melting point of the film, the resulting plastic film is cooled down to temperatures of 0 to 25°C (CA' 746, p. 12). In particular CA' 746 states, "If, for comparison, the polypropylene copolymers emerging from the slot die of the extruder are not cooled down to temperatures of 0°C to 15°C and if, after the films have been laminated to the metal sheet at temperatures of above 130°C, there is no cooling down to the temperatures of from 5°C to 25°C, films of the metal plastic laminate show distinct crazing." (CA '746, p. 13, lines 17-24; also compare examples 4 and 5 at CA '746, page 16). In contrast to CA '746, Smith et al. provides a second heater 42 directly after applying the films and only cools after the second heater 42.

It is also improper to combine the extrusion coating of Smith et al. with Ichikawa et al. Ichikawa et al. requires two metal strips and one plastic film sandwiched therebetween. This purpose is defeated by combination with Smith which requires two plastic films with a metal strip therebetween.

The Office action impermissibly uses the Applicant's specification against Claim 8. The discussion on page 2 of problems and solutions is not an admission of prior art.

Applicant further presents the rejection of Claims 9 and 10 is without basis because the

Office Action provides no documented source giving reasons, conditions, and timing to strengthen the film. See above discussed sections of the MPEP.

Claim 1(iv) recites heating the plastic strip and substrate above the softening temperature. Claims 19 and 20 emphasize this by reciting temperatures which further distinguish over the references. Ichikawa puts adhesive layer on the surface of metal substrates prior to laminating them onto each side of a solid resin sheet and preheats in preheaters 6, 6' to a temperature to melt the adhesive layers on the metal substrates (Ichikawa, et al., col. 4, lines 6-8). However, the preheat temperature is selected to not melt the resin sheet 11. The resin sheet 11 is fed to the hot press rollers at a temperature of 100 degrees C or less (Ichikawa, et al. col. 3, lines 43-48). The present invention does away with having to handle adhesive as a separate film as in Ichikawa, et al. For example, in present Ex. 2 the metal substrate is employed with an *in situ* manufactured two-layer substrate, the layer that is going to contact the metal substrate being a modified PP layer, modified to provide special adhesive capability.

C. Claim 7

Claim 7 stands rejected under 35 USC § 103(a) as being unpatentable over the Admitted Prior Art, in view of Aoki et al., Ichikawa et al., Murphy, and Bradley (as applied to Claim 1) in further view of Nishida et al. (U.S. Patent No. 5,952,071). It is respectfully submitted Nishida et al. fails to cure the deficiencies of the Admitted Prior Art, Aoki et al., Ichikawa et al., Murphy, and Bradley.

III. Conclusion

In view of the above, entry of the above amendments and passage of this application to issue are respectfully requested.

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